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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,011	09/10/2003	Paul I. Szabo	8204/1200311US3 (10.35C3)	3494

38878 7590 07/20/2010

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EXAMINER	
LOUIS, VINNCELAS	
ART UNIT	PAPER NUMBER
2474	
MAIL DATE	DELIVERY MODE
07/20/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/659,011	SZABO ET AL.	
	Examiner	Art Unit	
	VINNCELAS LOUIS	2474	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 April 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22,26-42,47,48 and 52-73* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22, 26-42,47-48,52-73* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 04/29/2010 have been fully considered but they are not persuasive.

Regarding claim 1, the applicant alleged that the combined system of Albert '045 and Datta '341 fails to show or merely suggest "if each received packet in the flow of packets is unassociated with the traffic manager**;** performing actions (A) selecting another traffic manager; and (B) associating the other traffic manager with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager" as recited by applicant on page 13 of 16.

In response, the examiner respectfully disagrees because in this case, the combined system of Albert '045 and Datta '341 explicitly teaches the above limitation.

Albert '045 teaches several clients 201, 202, and 203 are connected to a network 210. Network 210 is connected to a group of servers 220 that includes servers 221, 222, and 223. There is no point through which all traffic between devices connected to network 210 and the group of servers 220 must pass. Instead, some traffic from network 210 that is bound for the group of servers passes through a forwarding agent 231 and some traffic between network 210 and group

of servers 220 passes though a forwarding agent 232 **(see fig.2A, see fig.4, see col.6, lines 37-67.** Albert '045 teaches a network architecture that includes first forwarding agent 231 and second forward agent 232 where they both act as a distributor. It also includes first service manger 241 and second service manager 242, where they both act as traffic manager. In the network, each of the forwarding agent as distributor is in communication with both of the service manager as traffic manager (**see fig.2).** Such architecture is designed to provide load balancing (**see col.8, lines 45-67).** When a service manager provides load balancing through a set of forwarding agents, the service manager uses fixed affinities to provide instructions to the forwarding agents detailing where packets for each load balanced flow are to be forwarded **(see col.8, lines 10-17)**. The service manager also provides general instructions to each forwarding agent that specify which new flows the service manager is interested in seeing. These general instructions are provided using wildcard affinities. Wildcard affinities, which are described in detail below, specify sets of flows that are of interest to a service manager (**see col.8, lines 18-24).** The use of wildcard affinities enables separate service managers as traffic mangers to be configured to provide services for different sets of flows. Each service manager specifies the flows of interest to it and other service managers handle other flows (**see col.8, 28**-34, **see fig.2A, see fig.4**).

Albert '045 teaches , Once the forwarding agents as distributor have received fixed affinities, packets intercepted that match a fixed affinity are processed as instructed in the set of actions specified in the fixed affinity. If a matching fixed affinity is not found, the packet is compared against the wildcard affinities to find service manager(s) as traffic manager (s) that are interested in this type of packet (**see col.15, lines 45-67, see fig.2A, see fig.4**).

As described above, forwarding agents determine a service manager to handle a packet based on flow identifiers that specify source and destination IP addresses and ports. The fragment service manager sends wildcard affinities to the forwarding agents with a special fragment indicator set. When the forwarding agents receive packet fragments, the forwarding agents search for wildcard affinities with the fragment indicator set. Thus, forwarding agents look for wildcard affinities that correspond to complete packets when complete packets are received and forwarding agents search for wildcard affinities that correspond to packet fragments when packet fragments are received. Wildcard affinities for packet fragments may specify only source and destination IP addresses and not source and destination ports since all packet fragments do not include ports **(see col.28, lines 19-67, see fig.2A, see fig.4).**

Datta '341 teaches two LANs (or sub-networks) 302, 304 are connected to the WAN through two controllers as the distributor, with each controller designated as the default gateway for its respective LAN. Internet Service Providers ("ISPs") are also shown explicitly in FIG. 3; if the role of the WAN 114 in FIGS. 1 or 2 is played by the Internet, then ISPs may also be present in those topologies, even though they are not shown expressly. Moreover, ISPs need not be present when two LANs 106 are connected through a WAN 114 (**see fig.fig.3, see col.7, lines 9-18)**. When the controller 308 receives a SYN packet it is an indication that a new data transfer connection has been requested. This also indicates to the controller 308 that a new data stream is ready for mutiplexing or directing to a router 110. The information flow in the system 300 then proceeds according to FIG. 5, as discussed below (see fig.2, see fig.3, see col.8, lines 25-30).

Datta '341 teaches the controller 308 will trap the SYN request packet. Based on a load balancing algorithm, a round-robin approach, or another selection mechanism, the controller 308 will select a router 110 from a group of routers 110. The selection is done in a manner which increases concurrent operation of the routers 110 and thereby helps provide the LAN 302 with improved access to the WAN 114 through the several routers. In the illustrated topology 300, the controller 308 may select from three routers 310, 312, and 314, but in alternative

embodiments the selection may be made from two or more routers 110. The controller 308 then modifies the SYN packet by inserting the physical address and the IP address of the selected router 110. As a result of the modification to the SYN packet, **the data packet is sent to the selected router 110 for forwarding.** For instance, if the router 312 was selected by the controller 308, then the data packet would be sent to that router 312 (**see fig.2, see fig.3, see col.8, lines 31-47, see col.5, lines 20-27, see col.4, lines 56-65, which discusses the controller senses how many routers are connected to it, selects one and routes the request to the selected router, see col.15, lines 30-67**).

Datta '341 teaches, furthermore, the receiving step 502 may receive the SYN request at a machine whose IP address is specified in the request, or the receiving step 502 may receive the SYN request at a machine with a different IP address than the one specified in the SYN packet if that other machine is running controller 202 software. That is, the address of the controller 202 could be specified in the SYN request, or the request could specify the address of a router 110 which is located elsewhere in the network 106. If the controller 202 is on a router 110 and the controller 202 address is specified in the SYN request, then the modified SYN packet sent during step 510 may identify that same router 110 or it may identify another router 110. More generally, when the SYN request specifies the address of

one router 110, the controller 202 is generally free during step 508 to select that router 110 or another router 110 and then identify the selected router 110 in the modified SYN request during step 510 (see 17, lines 28-67). As a result of the modification to the SYN packet, **the data packet is sent to the selected router 110 for forwarding.** For instance, if the router 312 was selected by the controller 308, then the data packet would be sent to that router 312 (**see fig.2, see fig.3, see col.8, lines 31-47, see col.5, lines 20-27).**

Thus, it is clear that Datta '341 discloses (ii) if each received packet in the flow of packets is unassociated with the traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the receiving step 502 may receive a SYN request with a different IP address, that is, the address of the controller as distributor could be specified)**, performing actions**;** (A) selecting another traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the controller 202 selects another router as traffic manager)**; and (B) associating the other traffic manager (**i.e. router 110 as traffic manager**) with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager (**see fig.2 , which shows controller as distributor and router 110**

as traffic manager, see fig.5, see col.17, lines 28-50, **which discusses the controller is free to select that router or another and then identify the selected router 110 in the modified SYN request, see col.18, lines 1-50, see col.23, 40-67 & col.24, lines 1-67, which discuses the step of selecting one of the identified routers by determining that consequent/successive use of the selected will tend to increase concurrent/associate operation of identified router. The router selects between identified routers using load balancing, round-robin or another algorithm, see col.15, lines 30-67, see col.8, lines 31-47, which discusses** as a result of the modification to the SYN packet, **the data packet/data traffic is sent to the selected router 110 for forwarding**).

In view of the above, having the system of Albert '045 and then given the well-established teaching of Datta '341, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Datta '341, since Datta '341 stated in col.3, lines 60+ that such a modification would be an advancement/improvements.

Regarding claim 33, the applicant alleged that the combined system of Albert '045 and Hong '372fails to show or merely suggest "a first partial server-side connection key corresponding to another flow of packets, wherein the first partial server-side connection key includes known fields and unknown fields;

learning, at the distributor of a second partial server-side connection key which includes fields corresponding to unknown fields of the first partial server-side connection key; and storing, at the distributor an association between the second partial server-side connection key and the traffic manager associated with the flow of packets for use in forwarding packets of said another flow of packets; and making a determination to whether or not to age the second partial server connection" as recited by applicant on page 15 of 16.

In response, the examiner respectfully disagrees because in this case, the combined system of Albert '045 and Hong '372 explicitly teaches the above limitation.

Hong '372 teaches Multiple content director servers 100a-n are grouped together as a cluster to support. A server farm 104 includes origin server(s) 108, dynamic content server(s) 112 and/or cache server(s) 116. Traffic managers 120a-n perform load balancing by known techniques across the cluster of content directors. A router pool 124 including routers 128a-n route packets from the communications network 132 to the traffic managers 120a-n (**see fig.1, see para.003**7).

Based on the above, it is clear that Hong '372 teaches the use by providing a first partial server-side connection key corresponding to another flow of packets

(see fig.1, which shows traffic manager and content director as distributor, see para.0060, which discusses the packet is received by the IFS 200, see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server), wherein the first partial server-side connection key includes known fields (**see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server for known field)** and unknown fields (**see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because the client has not yet visited the server farm)**; learning, at the distributor **(i.e. at the content director)** of a second partial server-side connection key which includes fields corresponding to unknown fields of the first partial server-side connection key (**see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because the client has not yet visited the server farm, the tag is generated and concatenated into cookie when the response is received by the content director 100 from the server, see para.0064, which discusses the tag is generated based on the cache or origin server serving the URL and each server is assigned a unique server identifier)**; and storing, at the distributor (**i.e. at the content**

director) an association between the second partial server-side connection key **(see para.0065, which discusses later, transaction requests from the same client includes a server tag associated with the respective server initially assigned to the client and routed directly to respective server)** and the traffic manager **(see fig.1, which shows traffic manger 120, see para.0039-0040)** associated with the flow of packets for use in forwarding packets of said another flow of packets(**see para.0058, which discusses incoming packets that is been load balanced by a traffic manager , see para.0037, see para.0039, which discusses traffic manager perform load balancing based on round robin or number of connection server served basis**); and making a determination to whether or not to age the second partial server connection **(see para.0040, which discusses server IP address is entered into the hot IP database due predetermined period that meets or exceed the hot URL threshold and a new connection to that server are redirected/age out, see para.0042, see para.0055, which discusses timestamp for aging out entries, see para.0077, which discusses IFS repeats step 500 for the next packets to be received for determining known field and unknown field and add the missing field at the distributor/content director… , see fig.5).**

In view of the above, having the system of Albert ‘045 and then given the well-established teaching of Hong ‘372, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert ‘045 as taught by Hong ‘372, since Hong ‘372 stated in para.0010 + that such a modification would be an improved system.

Regarding claim 36, the same argument as claim 33 is also applied to claim 36 since claim 36 recited similar features as claim 33.

regarding claims 34-35, 37-42, the same argument as independent claims 36 is also applied to claims 34-35, 37-42 since claims 34-35, 37-42 are each depend either directly or indirectly from independent claims 36 as discussed above.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the rejection is based on the combined system of Albert ‘045 and Datta '341/Hong ‘372, and thus obviousness analysis should be performed on the combined system of Albert ‘045 and Datta '341/Hong ‘372, rather than argued by the applicant based on the individual references and its claimed invention. Clearly, as set forth in response above and rejection set forth

below, it is clear that the combined system of Albert ‘045 and Datta '341/Hong ‘372 discloses the claimed invention.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the suggestion to combine the references was shown in the background of the secondary references.

In response to applicant's argument that the secondary references are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, all references are communication system and therefore analogous.

In response to applicant's argument that the references are not combinable, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In view of the above, it is clear the previously cited prior arts still disclose the applicant claim invention as set detailed in the rejection below.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 64-68 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 64 recites processor-readable medium (**see para.0027**). Such processor readable medium could be **non-transitory medium (i.e. CD-ROM) or transitory medium (i.e. signal bearing-medium**), thus, examiner considered that "**processor readable medium**" recited in claim 18 would be fairly conveyed to

one of ordinary skill in the art to be a "**transitory medium (i.e. signal bearing)**" that is directed to non-statutory subject matter. Thus, claim 18 is rejected under 35 U.S.C. 101.

Claims 65-68 are also rejected for the same reason as set forth above in claim 64.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 32 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No.11/469,843.

Application No. 10/659,011	Copending application No.11/469,843.
32.(Original) An apparatus for routing a flow of packets over a network, comprising: (a) a means for receiving and forwarding at least one packet in the flow of packets; and (b) a means for forwarding each received packet in the flow of packets to a traffic manager, wherein the forwarding means determines the traffic manager based in part on a connection key that is associated with the flow of packets such that each forwarded packet	1. (Currently Amended) An apparatus for distributing flows of packets in a network having a plurality of network devices and a plurality of traffic managers, comprising: a receiving interface for receiving a flow of packets to one of the plurality of network devices; and a forwarding component that forwards each received packet to a determined

in the flow of packets is routed to the same traffic manager.	traffic manager, wherein the forwarding component determines the traffic manager based on whether at least one address that is included with a received packet is also associated with a set of addresses, and wherein if the packet includes a source address that is associated with the set of addresses, using a destination address of the packet to ~~determined~~ determine the traffic manager

This is a provisional obviousness –type double patenting rejection

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-11, 12-16, 17-22, 26-31, 32, 47-48, 52-56 and 60-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert et al (US 6,742,045) in view of Datta et al (US 6,493,341).

Regarding claim 1, Albert '045 discloses an apparatus for routing at least one flow of packets over a network (see fig.2A) comprising:

(a) a transceiver (**see fig.2A-2B, which shows forward agent 250 with network interface as transceiver**) arranged to receive and forward each packet in a flow of packets (**se col.9, lines 15-60, which discusses forward agent 250 that includes interface 258 that allows packets to be sent and received & see col.7, lines 18-19, which discusses flow as set of packets sent between two end stations**); and

(b) a processor (**see fig.2A-2B, which shows processor 252)**, coupled to the transceiver (**see fig.2A-2B, which shows processor 252 couple to interface 258 as transceiver)**, that is arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving SYN ,see col.12, lines 30-40 & see col.19, lines 65-67),** including:

(i) if at least one received packet in the flow of packets is associated with a traffic manager (**see col.11, lines 22-35, which discusses forward 302 determines the destination matches of the SYN packets matches by service manager 300**

as traffic manager), forwarding the flow of packets to the associated traffic manager (**see col.11, lines 22-35, which discusses forward agent 302 forwards the SYN packets to service manager 300, see col.19, lines 65-67**).

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose (ii) if each received packet in the flow of packets is unassociated with the traffic manager**;** performing actions (A) selecting another traffic manager; and (B) associating the other traffic manager with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager as required by the claimed invention .

Datta '341 teaches the use by providing (ii) if each received packet in the flow of packets is unassociated with the traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the receiving step 502 may receive a SYN request with a different IP address, that is, the address of the controller as distributor could be specified)**, performing actions**;** (A) selecting another traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the controller**

202 selects another router as traffic manager); and (B) associating the other traffic manager (**i.e. router 110 as traffic manager**) with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the controller is free to select that router or another and then identify the selected router 110 in the modified SYN request, see col.18, lines 1-50, see col.23, 40-67 & col.24, lines 1-67, which discuses the step of selecting one of the identified routers by determining that consequent/successive use of the selected will tend to increase concurrent/associate operation of identified router. The router selects between identified routers using load balancing, round-robin or another algorithm, see col.15, lines 30-67**).

In view of the above, having the system of Albert '045 and then given the well-established teaching of Datta '341, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Datta '341, since Datta '341 stated in col.3, lines 60+ that such a modification would be an advancement/improvements.

Regarding claim 2, Albert '045 discloses further comprising a memory (**see fig.2A-2b, which shows memory 245)** that is configured to store a connection key

(**see col.29, lines 58-67 & col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier as key identifier**) associated with at least one received packet in the flow of packets (**se col.11, lines 22-67, which discusses forwarding agent 302 determines the destination address associates with the service manager as traffic manager & col.30, lines 25-30**).

Regarding claim 3, Albert '045 discloses wherein the processor is arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving SYN, see col.12, lines 30-40 & see col.19, lines 65-67)**, further comprising, if at least one received packet in the flow of packets includes at least one connection key associated with at least one traffic manager (**see col.11, lines 22-35, which discusses forward 302 determines the destination matches of the SYN packets matches by service manager 300 as traffic manager)**, storing each connection key (**i.e. key identifier as IP address)** and its association with each traffic manager (**see col.29, lines 58-67 & col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service manager & see fig.2A**).

Regarding claim 4, Albert '045 discloses wherein the connection key further comprises at least one of a destination IP address (**see fig.7 & see col.17, lines 1-67, which discusses destination IP address & see fig.15).**

Regarding claim 5, Albert '045 discloses, wherein the processor is arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving SYN, see col.12, lines 30-40 & see col.19, lines 65-67)**, further comprising:

(a) receiving a signal from the traffic manager (**col.26, lines 14-67, which discusses service manager as traffic manager forwards affinity to a forwarding agent & see col.16, lines 5-20)**; and

(b) if the signal indicates a memorize instruction, storing the connection key and an association with the other traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers & see col.26, lines 14-67, which discusses service includes a criteria in a fixed affinity that specify future packets for the flow, which have already been assigned connection key, should not be sent to the service manager)**.

Regarding claim 6, Albert '045 discloses wherein the processor is arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving SYN, see col.12, lines 30-40 & see col.19, lines 65-67)**, further comprising:

(a) receiving a signal from the traffic manager (**col.26, lines 14-67, which discusses service manager as traffic manager forwards affinity to a forwarding agent & see col.16, lines 5-20)**; and

(b) if the signal indicates a forget instruction, deleting the association between the connection key (**i.e. IP address as connection key**) and the other traffic manager (**see col.27, lines 9-41, which discusses the service manager asks the forwarding agents to delete the affinities that are associated with themselves**).

Regarding claim 7, Albert '045 discloses wherein the processor is arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving SYN, see col.12, lines 30-40 & see col.19, lines 65-67)**, further comprising, aging at least one connection key (**see col.27, which discusses forwarding agents removes affinities at intervals specify by the service manager as traffic manager via an affinity updated message with a time to live of zero & see col.16, lines 6-20)**.

Regarding claim 8, Albert '045 discloses further comprising associating the other traffic manager with the connection key (**see fig.14, which shows the uses of look up affinity 1414 to determine the connection of service manager as traffic**), and mirroring the connection key to another processor (**see fig.14, which**

shows if determine remote service manager as traffic, copy/mirror the IP address and port).

Regarding claim 9, Albert '045 discloses, wherein the processor includes at least one of a microprocessor (**see col.30, lines 1-30, which discusses processor 1310 to represent any processor arrangement including multiple processors or a single processor performing multiple tasks)**.

Regarding claim 10, Albert '045 discloses wherein the apparatus is arranged to operate as at least one of a router (**see col.8, lines 59-67, which discusses forwarding agent on a router).**

Regarding claim 11, Albert '045 discloses wherein each received packet includes at least one of an internet protocol (IP) address (**see col.7, lines 17-25, see col.11, lines 22-35, which discusses destination IP address**).

Regarding claim 12, Albert '045 discloses a method for routing at least one flow of packets over a network (**see fig.2A & se abs, which discusses method**) comprising:

(a) if at least one received packet in the flow of packets is associated with a traffic manager (**see col.11, lines 22-35, which discusses forward 302 determines the destination matches of the SYN packets matches by service manager 300 as traffic manager)**, forwarding the flow of packets to the associated traffic

manager (**see col.11, lines 22-35, which discusses forward agent 302 forwards the SYN packets to service manager 300, see col.19, lines 65-67 & & see col.7, lines 18-19, which discusses flow as set of packets sent between two end stations**).

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose (ii) if each received packet in the flow of packets is unassociated with the traffic manager**;** performing actions (A) selecting another traffic manager; and (B) associating the other traffic manager with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager as required by the claimed invention .

Datta '341 teaches the use by providing (ii) if each received packet in the flow of packets is unassociated with the traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the receiving step 502 may receive a SYN request with a different IP address, that is, the address of the controller as distributor could be specified)**, performing actions**;** (A) selecting another traffic manager (**see fig.2 , which shows controller as distributor and router 110 as**

traffic manager, see fig.5, see col.17, lines 28-50, which discusses the controller 202 selects another router as traffic manager); and (B) associating the other traffic manager (**i.e. router 110 as traffic manager**) with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the controller is free to select that router or another and then identify the selected router 110 in the modified SYN request, see col.18, lines 1-50, see col.23, 40-67 & col.24, lines 1-67, which discuses the step of selecting one of the identified routers by determining that consequent/successive use of the selected will tend to increase concurrent/associate operation of identified router. The router selects between identified routers using load balancing, round-robin or another algorithm, see col.15, lines 30-67**).

In view of the above, having the system of Albert '045 and then given the well-established teaching of Datta '341, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Datta '341, since Datta '341 stated in col.3, lines 60+ that such a modification would be an advancement/improvements.

Regarding claim 13, Albert '045 discloses further comprising sending a second signal to a second distributor (**i.e. fixed affinity 1 is sent to forwarding 502 by service manager 504)**, in response to detecting a communication protocol signal in packet seen by a first distributor (i.e**. forwarding agent 512 received SYN ACK from host 506**), wherein the second signal instructs the second distributor to age a second association between a second flow of packets and the traffic manager (**see fig.5,which shows forwarding agent 512 to send the SYN ACK to 500 based on fixed affinity 2 received in response to the first affinity from service manager 504 instead of forwarding aging 502, col.14, lines 1-67 & see col.15, lines 1-67)**.

Regarding claim 14, Albert '045 discloses further comprising, in response to detecting a TCP FIN signal (**i.e. a via an affinity message with a time to live of zero)**, aging the association between the flow of packets and the traffic manager (**see col.27, lines 8-67, a time to live sent by service manager as traffic manager to forwarding agent that computes the time to live and store the expiration time**).

Regarding claim 15, Albert '045 discloses wherein associating the other traffic manager (**i.e. service manager as traffic manager**) with the flow of packets further comprises storing a connection key (**i.e. IP address**) and an

identifier associated with the other traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers & see col.26, lines 14-67, which discusses service includes a criteria in a fixed affinity that specify future packets for the flow, which have already been assigned connection key, should not be sent to the service manager)**.

Regarding claim 16, Albert '045 discloses wherein associating the other traffic manager with the flow of packets further comprises:

(a) receiving the flow of packets from the other traffic manager (**col.26, lines 14-67, which discusses service manager as traffic manager forwards affinity to a forwarding agent & see col.16, lines 5-20)**;

(b) determining whether a signal is associated with the received flow of packets (**see col.15, lines 45-67, which discusses forwarding agents have received fixed affinities that are associated with flow of packets and determine a determine match fixed affinity**); and

(c) if the signal indicates a memorize action, storing a connection key and an identifier associated with the other traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic**

managers & see col.26, lines 14-67, which discusses service includes a criteria in a fixed affinity that specify future packets for the flow, which have already been assigned connection key, should not be sent to the service manager & see col.15, lines 45-67).

Regarding claim 17, Albert '045 discloses a system for routing at least one flow of packets over a network (**see fig.2A**), comprising:

(a) a plurality of servers (**see fig.2A, which shows SERVER 1 –SERVER 3 as plurality)**; and

(b) a distributor (**see fig.2A, which forwarding Agent 1 & 2 as distributor**) that is in communication with the plurality of servers (**see fig.2A, which shows forwarding Agent 1 & see col.6, lines 37-67, which discusses forwarding 231 is connected to server 221 and 222)** wherein the distributor is arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving SYN, see col.12, lines 30-40 & see col.19, lines 65-67)**, including:

(i) if a connection key (**i.e. destination IP address of the traffic manager**) in at least one received packet in the flow of packets is associated with a traffic manager (**see col.11, lines 22-35, which discusses forward 302 determines the destination matches of the SYN packets matches by service manager 300 as traffic manager)**, forwarding the flow of packets to the traffic manager associated

with the connection key (**see col.11, lines 22-35, which discusses forward agent 302 forwards the SYN packets to service manager 300, see col.19, lines 65-67**).

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose (ii) if each received packet in the flow of packets is unassociated with the traffic manager**;** performing actions (A) selecting another traffic manager; and (B) associating the other traffic manager with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager as required by the claimed invention .

Datta '341 teaches the use by providing (ii) if each received packet in the flow of packets is unassociated with the traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the receiving step 502 may receive a SYN request with a different IP address as connection key, that is, the address of the controller as distributor could be specified)**, performing actions**;** (A) selecting another traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the controller 202 selects another router as traffic manager)**;

and (B) associating the other traffic manager (**i.e. router 110 as traffic manager**) with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the controller is free to select that router or another and then identify the selected router 110 in the modified SYN request, see col.18, lines 1-50, see col.23, 40-67 & col.24, lines 1-67, which discuses the step of selecting one of the identified routers by determining that consequent/successive use of the selected will tend to increase concurrent/associate operation of identified router. The router selects between identified routers using load balancing, round-robin or another algorithm, see col.15, lines 30-67**).

In view of the above, having the system of Albert '045 and then given the well-established teaching of Datta '341, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Datta '341, since Datta '341 stated in col.3, lines 60+ that such a modification would be an advancement/improvements.

Regarding claim 18, Albert '045 discloses wherein the distributor is arranged to perform further actions, including:

(a) sending a signal to a second distributor (**i.e. fixed affinity 1 is sent to forwarding 502 by service manager 504)**, wherein the signal is indicative of the association between the flow of packets and the traffic manager (**see fig.5, which shows the fixed affinity to indicate association between SYN flow and forwarding agent 502)**; and

(b) in response to detecting a communication protocol signal in another received packet in the flow of packets (i.e**. forwarding agent 512 received SYN ACK from host 506)**, sending a second signal to the second distributor **(i.e. affinity 1 with data)**, wherein the second signal is indicative of modifying the association between the flow of packets and the traffic manager (**see fig.5,which shows forwarding agent 512 to send the SYN ACK to 500 based on fixed affinity 2 received in response to the first affinity from service manager 504 instead of forwarding aging 502, col.14, lines 1-67 & see col.15, lines 1-67, thus modifying)**.

Regarding claim 19, Albert '045 discloses wherein modifying the association further comprises at least one of aging (**i.e. a via an affinity message with a time to live of zero)** and deleting the association between the flow of packets and the traffic manager (**see col.27, lines 8-67, a time to live sent by service manager as traffic manager to forwarding agent that computes the**

time to live and store the expiration time and asks the forwarding agents to delete the affinity).

Regarding claim 20, Albert '045 discloses further comprising a plurality of traffic managers arranged (**see fig.2A, which shows service manager 241 and 242)** to direct a flow of packets to at least one of the plurality of servers (**see fig.2, which shows service manager 241 & 142 to direct packets to 220).**

Regarding claim 21, Albert '045 discloses further comprising a plurality of traffic managers (**see fig.2A, which shows service manager 241 and 242)** coupled to the transceiver (**see fig.2A-2C, which interface as transceiver)**, each traffic manager (i.e. **service manager 241 and 242)** in the plurality of traffic managers (**see fig.2A, which shows service manager 241 and 242)** is configured to perform actions (**see col.6, lines 61-67**), including:

(a) receiving each packet in the forwarded flow of packets (**see fig.3A-3B, which shows the service 300 receives SYN packets from forwarding agent 302);**

(b) including a signal with each received packet (**see fig.3A-3B, which shows the service 300 receives SYN packets from forwarding agent 302 and with fixed affinities)**, wherein the signal indicates at least one of a memorize instruction (**see col.16, lines 8-67, which discusses forwarding agent to be**

received fixed affinities and dispatch traffic directly to server as shown in fig.2A), and a forget instruction (**see col.27, lines 8-67, which discusses a time to live is sent by the service managers as traffic managers to the forwarding agents**); and

(c) forwarding each received packet including the signal to another processor (**see fig.2A, which shows the use of forwarding packets service manager that includes processor & see col.27, lines 60-67**).

Regarding claim 22, Albert '045 discloses wherein selecting another traffic manager further comprises basing the selection in part on at least a destination IP address (**see fig.2A, col.8, lines 10-34, which discusses specifying subnet masks that determine the sets of source and destination IP address that will be forwarded to a service manager).**

Regarding claim 26, Albert '045 discloses a method for routing two related flows of packets including a first flow and a second flow, over a network having a plurality of traffic managers (**see fig.2A, 4**), comprising:

at a distributor (**see fig.2, which shows forwarding agent 1/ forwarding agent 2 as distributor)**:

(a) receiving the first flow of packets in the related flows of packets (**see col.6,**

lines 37-67, which discusses some traffic from network 210 passes through a forwarding agent 231);

(b)receiving the second flow of packets in the related flows of packets (**see col.6, lines 37-67, which discusses some traffic from network 210 passes through a forwarding agent 232);**

(c)forwarding the first flow of packets to a target traffic manager **(see col.4, lines 50-67, which discusses forward agents forward packets to the appropriate service manager as traffic manager, col.8, lines 10-67, which discusses service managers uses wildcard affinities to specify flows for which they may be provides service and forward agents transfers packets to the appropriate service managers)** selected from the plurality of traffic managers (**see fig.2A, which shows service manager 241 and 242)** , wherein the target traffic manager is selected based in part on a first connection key (**see col.8, lines 20-67, which discusses specifying subnet masks that determine the sets of source and destination IP addresses as connection key to a service manager & see fig.2A)** ; and

(d) forwarding the second flow of packets to the target traffic manager (**see col.4, lines 50-67, which discusses forward agents forward packets to the appropriate service manager as traffic manager, col.8, lines 10-67, which**

discusses service managers uses wildcard affinities to specify flows for which they may be provides service and forward agents transfers packets to the appropriate service managers) based in part on the second connection key (**see col.8, lines 20-67, which discusses specifying subnet masks that determine the sets of source and destination IP addresses as connection key to a service manager & see fig.2A)**.

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose Performing load-balancing, including making a determination as to which traffic manager of the plurality of managers to forward packets to based on a load across of traffic managers as required by the claimed invention.

Datta '341 teaches the use by providing Performing load-balancing , including making a determination as to which traffic manager of the plurality of managers to forward packets to based on a load across of traffic managers **(see fig.2, which shows controller as distributor and router 110 as traffic manager, see col.4,lines 42-65, the controller as distributor decides/determines, based on router/ traffic manager loads, when to add in the next router/traffic**

manager, col.5, lines 19-27, see col.15, lines 54-67 & col.16, lines19-24, see col.24, liens 31-36).

In view of the above, having the system of Albert '045 and then given the well-established teaching of Datta '341, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Datta '341, since Datta '341 stated in col.3, lines 60+ that such a modification would be an advancement/improvements.

Regarding claim 27, Albert '045 discloses wherein the first flow of packets (**see col.6, lines 37-67, which discusses some traffic from network 210 passes through a forwarding agent 231)** and second flow of packets (**see col.6, lines 37-67, which discusses some traffic from network 210 passes through a forwarding agent 232)** further comprise a bi-directional flow of packets wherein the first flow of packets flow in one direction (**see fig.2A -4, which shows forward 231 to forwards first flow of packets in the direction of server 1**) and the second flow of packets flow in a different direction (**see fig.2A -4, which shows forward 232 to forwards second flow of packets in the direction of server 3**).

Regarding claim 28, Albert '045 discloses wherein the first flow of packets is a control flow and the second flow of packets is a data flow (**see col.15, lines 40-44, which discusses FTP control flow and data flow)**.

Regarding claim 29, Albert '045 discloses, further comprising:

(a) storing an association between the first flow of packets (**see col.6, lines 37-67, which discusses some traffic from network 210 passes through a forwarding agent 231)** in the related flows of packets and the target traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers, see col.26, lines 14-67, see col.15, lines 45-67, see col.27, lines 46-67, which discusses a fixed affinity or wildcard affinity is referred as being stored on a forward agent, associated actions must be stored with the affinity)**; and

(b) in response to receiving the second flow of packets in the related flows of packets (**see col.6, lines 37-67, which discusses some traffic from network 210 passes through a forwarding agent 232)**, employing the association to identify the target traffic manager (**col.8, lines 10-67, which discusses service managers uses wildcard affinities to specify flows for which they may be provides service and forward agents transfers packets to the appropriate**

service managers) storing an association between the second flow of packets and the target traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers, see col.27, lines 46-67, which discusses a fixed affinity or wildcard affinity is referred as being stored on a forward agent, associated actions must be stored with the affinity)**.

Regarding claim 30, Albert '045 discloses further comprising:

(a)receiving a packet in the first flow of packets from the target traffic manager (**see fig.2A, col.26, lines 14-67, which discusses service manager as traffic manager forwards affinity to a forwarding agent & see col.16, lines 5-20)**;

(b)determining whether a signal is associated with the received packet in the first flow of packets (**see col.15, lines 45-67, which discusses forwarding agents have received fixed affinities, from the traffic manager, that are associated with flow of packets and determine match fixed affinity**); and

(c) if the signal is a memorize signal, storing the first connection key and an identifier associated with the target traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from**

which the processor reads IP identifier of the service managers traffic managers & see col.26, lines 14-67, which discusses service includes a criteria in a fixed affinity that specify future packets for the flow, which have already been assigned connection key, should not be sent to the service manager & see col.15, lines 45-67, see col.27, lines 46-67).

Regarding claim 31, Albert '045 discloses further comprising:

(a) receiving a packet in the first flow of packets from the target traffic manager (**see fig.2A, col.26, lines 14-67, which discusses service manager as traffic manager forwards affinity to a forwarding agent & see col.16, lines 5-20)**; and

(b) in response to the received packet, storing the first connection key (**i.e. IP address)** and an identifier associated with the target traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers & see col.26, lines 14-67, which discusses service includes a criteria in a fixed affinity that specify future packets for the flow, which have already been assigned connection key, should not be sent to the service manager & see col.15, lines 45-67, see col.27, lines 46-67)**.

Regarding claim 30, Albert '045 discloses an apparatus for routing a flow of packets over a network (**see fig.2A**), comprising:

(a) a means for receiving and forwarding at least one packet in the flow of packets (**se col.9, lines 15-60, which discusses forward agent 250 that includes interface 258 that allows packets to be sent and received & see col.7, lines 18-19, which discusses flow as set of packets sent between two end stations**); and

(b) a means for forwarding each received packet in the flow of packets to a traffic manager (**col.8, lines 10-67, which discusses service managers uses wildcard affinities to specify flows for which they may be provides service and forward agents transfers packets to the appropriate service managers)**, wherein the forwarding means determines the traffic manager based in part on a connection key (**see col.8, lines 20-67, which discusses specifying subnet masks that determine the sets of source and destination IP addresses as connection key to a service manager & see fig.2A)** that is associated with the flow of packets such that each forwarded packet in the flow of packets is routed to the same traffic manager (**col.8, lines 10-67, which discusses service managers uses wildcard affinities to specify flows for which they may be provides service and forward agents transfers packets to the appropriate service managers & see fig.2A)**.

Regarding claim 47, Albert '045 discloses an apparatus for routing a plurality of packet flows over a network (**see fig.2A**) comprising:

(a) a transceiver (**see fig.2A-2B, which shows forward agent 250 with network interface as transceiver**) arranged to receive and forward each packet in the plurality of packet flows (**se col.9, lines 15-60, which discusses forward agent 250 that includes interface 258 that allows packets to be sent and received & see col.7, lines 18-19, which discusses flow as set of packets sent between two end stations**);

(b)an interface, coupled to the transceiver (**see fig.2B-2C**), and arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving SYN ,see col.12, lines 30-40 & see col.19, lines 65-67)**, including:

(i)receiving an instruction (**see fig.2A-4, (col.8, lines 10-67, which discusses service managers uses wildcard affinities to specify flows for which they may be provides service and forward agents transfers packets to the appropriate service managers**);

(ii)if the instruction is a memorize instruction (**i.e. memory 1316 to stored instructions**), storing a mapping between a designated packet flow in the plurality of packet flows and a target network device (**see fig.2A-3A, col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments**

from which the processor reads IP identifier of the service managers traffic managers, see col.27, lines 46-67, which discusses a fixed affinity or wildcard affinity is referred as being stored on a forward agent, associated actions must be stored with the affinity); and

(iii) if the instruction is a delete instruction (**i.e. affinity message with a time to live of zero)**, deleting the mapping between the designated packet flow in the plurality of packet flows and the target network device (**see col.27, lines 8-59, which discusses forwarding agent removes/deletes affinity at interval provide by the service manager via an update message with a time to live of zero & see fig.2A-4).**

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose Performing load-balancing, including making a determination as to which traffic manager of the plurality of managers to forward packets to based on a load across of traffic managers as required by the claimed invention.

Datta '341 teaches the use by providing Performing load-balancing , including making a determination as to which traffic manager of the plurality of managers to forward packets to based on a load across of traffic managers **(see**

fig.2, which shows controller as distributor and router 110 as traffic manager, see col.4,lines 42-65, the controller as distributor decides/determines, based on router/ traffic manager loads, when to add in the next router/traffic manager, col.5, lines 19-27, see col.15, lines 54-67 & col.16, lines19-24, see col.24, liens 31-36).

In view of the above, having the system of Albert '045 and then given the well-established teaching of Datta '341, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Datta '341, since Datta '341 stated in col.3, lines 60+ that such a modification would be an advancement/improvements.

Regarding claim 48, Albert '045 discloses wherein the interface is arranged to perform further actions, including, if the instruction is a mirror instruction **(i.e. forwarding agent to check affinity received from service manager as traffic manager to determine the processing 1414, 1416)**, mirroring the mapping between the designated packet flow and the target network device **(see fig.2A-4, see fig.14, which discusses, which shows if determine remote 1416, copy forwarding agent IP to the remote service manager 1422, 1424)**.

Regarding claim 52, Albert '045 discloses a method for routing a first flow of packets and a second flow of packets that is related to the first flow of packets (**see fig.2A**), over a network comprising:

(a) at a first distributor, associating the first flow of packets with a traffic manager (**see col.6, lines 37-67, which discusses some traffic from network 210 passes through a forwarding agent 231 that communicates to service manager 241 and 242)**;

(b) at a first distributor ,associating the second flow of packets with the traffic manager (**see col.6, lines 37-67, which discusses some traffic from network 210 passes through a forwarding agent 232 that communicates to service manager 241 and 242)**;

and

(c)in response to detecting a signal in the first flow of packets **(see col.26, lines 35-67, which discusses service managers can send forwarding agents instruction detailing certain sets of packets that the service manager want to be either forwarded or interested and the forwarding agent that intercepts packets that matches the affinity to be forwarded to the service manager & see col.8, lines 4-65),** aging the association between the second flow of packets and the traffic manager (**see fig.5,which shows service manager 504 to receive**

flow from both forwarding agents and provides fixed affinity to each forwarding agent to handle packets for a given flow and see col.14, lines 1-67 & see col.15, lines 1-67,which discusses flow sent from 500 to 502 but instead 512 based on instruction received from 504 forward the flow back to the client 500, thus aging).

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose Performing load-balancing, including making a determination as to which traffic manager of the plurality of managers to forward packets to based on a load across of traffic managers as required by the claimed invention.

Datta '341 teaches the use by providing Performing load-balancing , including making a determination as to which traffic manager of the plurality of managers to forward packets to based on a load across of traffic managers **(see fig.2, which shows controller as distributor and router 110 as traffic manager, see col.4,lines 42-65, the controller as distributor decides/determines, based on router/ traffic manager loads, when to add in the next router/traffic manager, col.5, lines 19-27, see col.15, lines 54-67 & col.16, lines19-24, see col.24, liens 31-36**).

In view of the above, having the system of Albert ‘045 and then given the well-established teaching of Datta '341, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert ‘045 as taught by Datta '341, since Datta '341 stated in col.3, lines 60+ that such a modification would be an advancement/improvements.

Regarding claim 53, Albert ‘045 discloses wherein the signal further comprises a TCP protocol signal (**see col.7, lines 20-25, which discusses TCP**).

Regarding claim 54, Albert ‘045 discloses wherein the signal further comprises a TCP FIN (**see col.25, lines 25-51, which discusses TCP FIN**).

Regarding claim 55, Albert ‘045 discloses further comprising:

(a)storing (**see fig.2A-3A, col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers)** a sequence number **(see col.26, lines 35-67, which discusses service managers can send forwarding agents instruction detailing certain sets of packets that the service manager want to be either forwarded or interested and the forwarding agent that intercepts packets that matches the affinity to be forwarded to the service manager & see col.8, lines 4-65)** corresponding to the first flow of packets (**see fig.2A, col.27, lines 46-67, which discusses a fixed affinity or**

wildcard affinity is referred as being stored on a forward agent, associated actions must be stored with the affinity & see col.24, lines 28-50, which discusses a sequence number); and

(b) employing the sequence number to determine whether the signal is a valid FIN signal (**see col.24, lines 28-50, which discusses forwarding agent to use the sequence number to perform action as such fin signal discusses in col.25, lines 13-40).**

Regarding claim 56, Albert '045 discloses further comprising, in response to detecting the signal (i.e**. forwarding agent 512 received SYN ACK from host 506**), in a first distributor (**i.e. forwarding agent 512 as the first distributor**), sending a second signal to a second distributor (**i.e. fixed affinity 1 is sent to forwarding 502 by service manager 504),** wherein the second signal instructs the second distributor to age the second flow of packets (**see fig.5,which shows forwarding agent 512 to send the SYN ACK to 500 based on fixed affinity 2 received in response to the first affinity from service manager 504, col.14, lines 1-67 & see col.15, lines 1-67)**.

Regarding claim 60, Albert '045 discloses an apparatus for routing at least one flow of packets over a network (see fig.2A) comprising:

(a) a transceiver (**see fig.2A-2B, which shows forward agent 250 with network interface as transceiver**) arranged to receive and forward each packet in a flow of packets (**se col.9, lines 15-60, which discusses forward agent 250 that includes interface 258 that allows packets to be sent and received & see col.7, lines 18-19, which discusses flow as set of packets sent between two end stations**); and

(b) a processor (**see fig.2A-2B, which shows processor 252)**, coupled to the transceiver (**see fig.2A-2B, which shows processor 252 couple to interface 258 as transceiver)**, that is arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving SYN ,see col.12, lines 30-40 & see col.19, lines 65-67),** including:

(i) if at least one received packet in the flow of packets is associated with a traffic manager (**see col.11, lines 22-35, which discusses forward 302 determines the destination matches of the SYN packets matches by service manager 300 as traffic manager),** forwarding the flow of packets to the associated traffic manager (**see col.11, lines 22-35, which discusses forward agent 302 forwards the SYN packets to service manager 300, see col.19, lines 65-67**).

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested

in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose (ii) if each received packet in the flow of packets is unassociated with the traffic manager**;** performing actions (A) selecting another traffic manager; and (B) associating the other traffic manager with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager as required by the claimed invention .

Datta '341 teaches the use by providing (ii) if each received packet in the flow of packets is unassociated with the traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the receiving step 502 may receive a SYN request with a different IP address, that is, the address of the controller as distributor could be specified)**, performing actions**;** (A) selecting another traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the controller 202 selects another router as traffic manager)**; and (B) associating the other traffic manager (**i.e. router 110 as traffic manager**) with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50**, **which discusses the**

controller is free to select that router or another and then identify the selected router 110 in the modified SYN request, see col.18, lines 1-50, see col.23, 40-67 & col.24, lines 1-67, which discuses the step of selecting one of the identified routers by determining that consequent/successive use of the selected will tend to increase concurrent/associate operation of identified router. The router selects between identified routers using load balancing, round-robin or another algorithm, see col.15, lines 30-67).

In view of the above, having the system of Albert '045 and then given the well-established teaching of Datta '341, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Datta '341, since Datta '341 stated in col.3, lines 60+ that such a modification would be an advancement/improvements

Regarding claim 61, Albert '045 discloses wherein the processor is arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving SYN, see col.12, lines 30-40 & see col.19, lines 65-67)**, further comprising, if at least one received packet in the flow of packets includes at least one connection key associated with at least one traffic manager (**see col.11, lines 22-35, which discusses forward 302 determines the destination matches of the SYN packets matches by service manager 300 as traffic manager)**, storing each connection

key (**i.e. key identifier as IP address)** and its association with each traffic manager (**see col.29, lines 58-67 & col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service manager & see fig.2A**).

Regarding claim 62, Albert '045 discloses, wherein the processor is arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving SYN, see col.12, lines 30-40 & see col.19, lines 65-67)**, further comprising:

(a) receiving a signal from the traffic manager (**col.26, lines 14-67, which discusses service manager as traffic manager forwards affinity to a forwarding agent & see col.16, lines 5-20)**; and

(b) if the signal indicates a memorize instruction, storing the connection key and an association with the other traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers & see col.26, lines 14-67, which discusses service includes a criteria in a fixed affinity that specify future packets for the flow, which have already been assigned connection key, should not be sent to the service manager)**.

Regarding claim 63, Albert '045 discloses wherein the processor is arranged to perform actions (**see fig.3A, Which shows 302 to perform action by receiving**

SYN, see col.12, lines 30-40 & see col.19, lines 65-67), further comprising, aging at least one connection key (**see col.27, which discusses forwarding agents removes affinities at intervals specify by the service manager as traffic manager via an affinity updated message with a time to live of zero** & **see col.16, lines 6-20)**.

Regarding claim 64, Albert '045 discloses an manufacture including a processor-readable medium having processor-executable code stored therein, which when executed by one or more processors, enables actions for routing at least one flow of packets over a network, (**see fig.2A & se abs, which discusses method**) comprising:

(a) if at least one received packet in the flow of packets is associated with a traffic manager (**see col.11, lines 22-35, which discusses forward 302 determines the destination matches of the SYN packets matches by service manager 300 as traffic manager)**, forwarding the flow of packets to the associated traffic manager (**see col.11, lines 22-35, which discusses forward agent 302 forwards the SYN packets to service manager 300, see col.19, lines 65-67 & & see col.7, lines 18-19, which discusses flow as set of packets sent between two end stations**).

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose (ii) if each received packet in the flow of packets is unassociated with the traffic manager**;** performing actions (A) selecting another traffic manager; and (B) associating the other traffic manager with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager as required by the claimed invention .

Datta '341 teaches the use by providing (ii) if each received packet in the flow of packets is unassociated with the traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the receiving step 502 may receive a SYN request with a different IP address, that is, the address of the controller as distributor could be specified)**, performing actions**;** (A) selecting another traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the controller 202 selects another router as traffic manager)**; and (B) associating the other traffic manager (**i.e. router 110 as traffic manager**) with the flow of packets wherein each received packet in the flow of packets is forwarded to the other

traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50**, **which discusses the controller is free to select that router or another and then identify the selected router 110 in the modified SYN request, see col.18, lines 1-50, see col.23, 40-67 & col.24, lines 1-67, which discuses the step of selecting one of the identified routers by determining that consequent/successive use of the selected will tend to increase concurrent/associate operation of identified router. The router selects between identified routers using load balancing, round-robin or another algorithm, see col.15, lines 30-67**).

In view of the above, having the system of Albert '045 and then given the well-established teaching of Datta '341, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Datta '341, since Datta '341 stated in col.3, lines 60+ that such a modification would be an advancement/improvements.

Regarding claim 65, Albert '045 discloses further comprising sending a second signal to a second distributor (**i.e. fixed affinity 1 is sent to forwarding 502 by service manager 504)**, in response to detecting a communication protocol signal in packet seen by a first distributor (i.e**. forwarding agent 512 received SYN ACK from host 506**), wherein the second signal instructs the second

distributor to age a second association between a second flow of packets and the traffic manager (**see fig.5,which shows forwarding agent 512 to send the SYN ACK to 500 based on fixed affinity 2 received in response to the first affinity from service manager 504 instead of forwarding aging 502, col.14, lines 1-67 & see col.15, lines 1-67)**.

Regarding claim 66, Albert '045 discloses further comprising, in response to detecting a TCP FIN signal (**i.e. a via an affinity message with a time to live of zero)**, aging the association between the flow of packets and the traffic manager (**see col.27, lines 8-67, a time to live sent by service manager as traffic manager to forwarding agent that computes the time to live and store the expiration time**).

Regarding claim 67, Albert '045 discloses wherein associating the other traffic manager (**i.e. service manager as traffic manager**) with the flow of packets further comprises storing a connection key (**i.e. IP address**) and an identifier associated with the other traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers & see col.26, lines 14-67, which discusses service includes a criteria**

in a fixed affinity that specify future packets for the flow, which have already been assigned connection key, should not be sent to the service manager).

Regarding claim 68, Albert '045 discloses wherein associating the other traffic manager with the flow of packets further comprises:

(a) receiving the flow of packets from the other traffic manager (**col.26, lines 14-67, which discusses service manager as traffic manager forwards affinity to a forwarding agent & see col.16, lines 5-20)**;

(b) determining whether a signal is associated with the received flow of packets (**see col.15, lines 45-67, which discusses forwarding agents have received fixed affinities that are associated with flow of packets and determine a determine match fixed affinity**); and

(c) if the signal indicates a memorize action, storing a connection key and an identifier associated with the other traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers & see col.26, lines 14-67, which discusses service includes a criteria in a fixed affinity that specify future packets for the flow, which have already been assigned connection key, should not be sent to the service manager & see col.15, lines 45-67)**.

Regarding claim 69, Albert '045 discloses a method for routing at least one flow of packets over a network (**see fig.2A & se abs, which discusses method**) comprising:

(a) if at least one received packet in the flow of packets is associated with a traffic manager (**see col.11, lines 22-35, which discusses forward 302 determines the destination matches of the SYN packets matches by service manager 300 as traffic manager)**, forwarding the flow of packets to the associated traffic manager (**see col.11, lines 22-35, which discusses forward agent 302 forwards the SYN packets to service manager 300, see col.19, lines 65-67 & & see col.7, lines 18-19, which discusses flow as set of packets sent between two end stations**).

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose (ii) if each received packet in the flow of packets is unassociated with the traffic manager**;** performing actions (A) selecting another traffic manager; and (B) associating the other traffic manager with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager as required by the claimed invention .

Datta '341 teaches the use by providing (ii) if each received packet in the flow of packets is unassociated with the traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the receiving step 502 may receive a SYN request with a different IP address, that is, the address of the controller as distributor could be specified)**, performing actions**;** (A) selecting another traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50, which discusses the controller 202 selects another router as traffic manager)**; and (B) associating the other traffic manager (**i.e. router 110 as traffic manager**) with the flow of packets wherein each received packet in the flow of packets is forwarded to the other traffic manager (**see fig.2 , which shows controller as distributor and router 110 as traffic manager, see fig.5, see col.17, lines 28-50**, **which discusses the controller is free to select that router or another and then identify the selected router 110 in the modified SYN request, see col.18, lines 1-50, see col.23, 40-67 & col.24, lines 1-67, which discuses the step of selecting one of the identified routers by determining that consequent/successive use of the selected will tend to increase concurrent/associate operation of identified router. The**

router selects between identified routers using load balancing, round-robin or another algorithm, see col.15, lines 30-67).

In view of the above, having the system of Albert '045 and then given the well-established teaching of Datta '341, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Datta '341, since Datta '341 stated in col.3, lines 60+ that such a modification would be an advancement/improvements.

Regarding claim 70, Albert '045 discloses further comprising sending a second signal to a second distributor (**i.e. fixed affinity 1 is sent to forwarding 502 by service manager 504)**, in response to detecting a communication protocol signal in packet seen by a first distributor (i.e**. forwarding agent 512 received SYN ACK from host 506**), wherein the second signal instructs the second distributor to age a second association between a second flow of packets and the traffic manager (**see fig.5,which shows forwarding agent 512 to send the SYN ACK to 500 based on fixed affinity 2 received in response to the first affinity from service manager 504 instead of forwarding aging 502, col.14, lines 1-67 & see col.15, lines 1-67)**.

Regarding claim 71, Albert '045 discloses further comprising, in response to detecting a TCP FIN signal (**i.e. a via an affinity message with a time to live of**

zero), aging the association between the flow of packets and the traffic manager (**see col.27, lines 8-67, a time to live sent by service manager as traffic manager to forwarding agent that computes the time to live and store the expiration time**).

Regarding claim 72, Albert '045 discloses wherein associating the other traffic manager (**i.e. service manager as traffic manager**) with the flow of packets further comprises storing a connection key (**i.e. IP address**) and an identifier associated with the other traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers & see col.26, lines 14-67, which discusses service includes a criteria in a fixed affinity that specify future packets for the flow, which have already been assigned connection key, should not be sent to the service manager)**.

Regarding claim 73, Albert '045 discloses wherein associating the other traffic manager with the flow of packets further comprises:

(a) receiving the flow of packets from the other traffic manager (**col.26, lines 14-67, which discusses service manager as traffic manager forwards affinity to a forwarding agent & see col.16, lines 5-20)**;

(b) determining whether a signal is associated with the received flow of packets (**see col.15, lines 45-67, which discusses forwarding agents have received fixed affinities that are associated with flow of packets and determine a determine match fixed affinity**); and

(c) if the signal indicates a memorize action, storing a connection key and an identifier associated with the other traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers & see col.26, lines 14-67, which discusses service includes a criteria in a fixed affinity that specify future packets for the flow, which have already been assigned connection key, should not be sent to the service manager & see col.15, lines 45-67)**.

6. Claims 33-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert et al (US 6,742,045) in view of Hong et al (US 2002/0062372).

Regarding claim 33, Albert '045 discloses a method for routing a flow of packets over a network (**see fig.2A**), comprising:

(a) transmitting a signal, from a traffic manager (**i.e. service manager)** to a distributor (**see fig.3A, Which shows 302 to receive wildcard affinity from service manager , see col.12, lines 30-40 & see col.19, lines 65-67)**,

wherein the signal indicates a processing instruction associated with the flow of packets (**see col.17, lines 35-67, which discusses wildcard affinities would include an IP address with a net mask, indicating the first three byte of the IP address that must match)**;

(b) receiving the signal at the distributor (**see fig.2A-3B, which shows 302 to receive fixed affinity from service manager 300)**;

(c) receiving, at the distributor, a packet in the flow of packets (**see fig.3A, which shows SYN packet is received at the forward agent as distributor);** and

(d) processing, at the distributor, the packet based at least in part on the signal (**see fig.2A-3B, which shows the SYN packet flow is forwarded to service manager 300).**

transmitting, from the traffic manager **(i.e. service manager as traffic manager)** to the distributor (**see fig.2, 4, which shows the use of transmitting from the service to forwarding agent as distributor)**.

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose a first partial server-side connection key corresponding to another flow of packets, wherein the first partial server-side connection key includes known fields

and unknown fields; learning, at the distributor of a second partial server-side connection key which includes fields corresponding to unknown fields of the first partial server-side connection key; and storing, at the distributor an association between the second partial server-side connection key and the traffic manager associated with the flow of packets for use in forwarding packets of said another flow of packets; and making a determination to whether or not to age the second partial server connection as required by the claimed invention .

Hong '372 teaches the use by providing a first partial server-side connection key corresponding to another flow of packets **(see fig.1, which shows traffic manager and content director as distributor, see para.0060, which discusses the packet is received by the IFS 200, see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server)**, wherein the first partial server-side connection key includes known fields (**see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server for known field)** and unknown fields (**see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because the client has not yet visited the server farm)**; learning, at the distributor **(i.e. at**

the content director) of a second partial server-side connection key which includes fields corresponding to unknown fields of the first partial server-side connection key (**see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because the client has not yet visited the server farm, the tag is generated and concatenated into cookie when the response is received by the content director 100 from the server, see para.0064, which discusses the tag is generated based on the cache or origin server serving the URL and each server is assigned a unique server identifier)**; and storing, at the distributor (**i.e. at the content director**) an association between the second partial server-side connection key **(see para.0065, which discusses later, transaction requests from the same client includes a server tag associated with the respective server initially assigned to the client and routed directly to respective server)** and the traffic manager **(see fig.1, which shows traffic manger 120, see para.0039-0040)** associated with the flow of packets for use in forwarding packets of said another flow of packets(**see para.0058, which discusses incoming packets that is been load balanced by a traffic manager , see para.0037, see para.0039, which discusses traffic manager perform load balancing based on round robin or number of connection server served basis**); and making a determination to whether or not to

age the second partial server connection **(see para.0040, which discusses server IP address is entered into the hot IP database due predetermined period that meets or exceed the hot URL threshold and a new connection to that server are redirected/age out, see para.0042, see para.0055, which discusses timestamp for aging out entries, see para.0077, which discusses IFS repeats step 500 for the next packets to be received for determining known field and unknown field and add the missing field at the distributor/content director… , see fig.5).**

In view of the above, having the system of Albert '045 and then given the well-established teaching of Hong '372, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Hong '372, since Hong '372 stated in para.0010 + that such a modification would be an improved system.

Regarding claim 34, Albert '045 discloses wherein receiving the signal at the distributor further comprises storing a mapping between the flow of packets and the traffic manager (**col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers, see col.27, lines 46-67,**

which discusses a fixed affinity or wildcard affinity is referred as being stored on a forward agent, associated actions must be stored with the affinity).

Regarding claim 35, Albert '045 discloses wherein processing the packet further comprises forwarding the packet to the traffic manager (**see fig.3A-3B, which shows forwarding SYN packet to the service manager 300).**

Regarding claim 36, Albert '045 discloses a method for routing a flow of packets over a network (**see fig.2A**), comprising:

(a) receiving, from a target traffic manager (**see fig.3A, Which shows 302 to receive wildcard affinity from service manager as traffic manager , see col.12, lines 30-40 & see col.19, lines 65-67)**, a signal representing a processing instruction associated with the flow of packets (**see col.17, lines 35-67, which discusses wildcard affinities would include an IP address with a net mask, indicating the first three byte of the IP address that must match & see fig.2A)**;

(b) receiving, a packet in the flow of packets (**see fig.3A, Which shows 302 to receive SYN packets in the flow of packets)**; and

(c) processing the packet representing the processing instruction (**see fig.2A-3B, which shows the SYN packet flow is forwarded to service manager 300).**

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly disclose based at least in part on the signal as required by the claimed invention .

Hong '372 teaches the use by providing based at least in part on the signal **(see fig.1, which shows traffic manager and content director as distributor, see para.0060, which discusses the packet is received by the IFS 200, see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server, see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because the client has not yet visited the server farm, the tag is generated and concatenated into cookie when the response is received by the content director 100 from the server, see para.0065).**

In view of the above, having the system of Albert '045 and then given the well-established teaching of Hong '372, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Hong '372, since Hong '372 stated in para.0010 + that such a modification would be an improved system.

Regarding claim 37, Albert '045 discloses further comprising, in response to receiving the signal (**i.e. wild affinity**), storing a mapping between the flow of packets and the target traffic manager (see fig.2A-3A, **col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers, see col.27, lines 46-67, which discusses a fixed affinity or wildcard affinity is referred as being stored on a forward agent, associated actions must be stored with the affinity).**

Regarding claim 38, Albert '045 discloses, further comprising:

(a) in response to receiving the signal (**i.e. wild affinity**), storing a mapping between the flow of packets and the target traffic manager (**see fig.2A-3A, col.30, lines 25-30, which discusses memory 1316 for the purpose of storing packets fragments from which the processor reads IP identifier of the service managers traffic managers, see col.27, lines 46-67, which discusses a fixed affinity or wildcard affinity is referred as being stored on a forward agent, associated actions must be stored with the affinity);**

(b) receiving from the target traffic manager (i**.e. from service manger 300 as traffic manager),** another signal associated with the flow of packets **(i.e. fixed affinity 2 with sync ACK)**, wherein the other signal represents another processing

instruction associated with the flow of packets (**see fig.2A-3B, which shows service manager sends fixed affinity 2 with SYNC ACK to forwarding agent 302**); and

(c) in response to receiving the other signal (**i.e. affinity update message**), deleting the mapping between the flow of packets and the target traffic manager (**see col.27, lines 8-59, which discusses forwarding agent removes/deletes affinity at interval provide by the service manager via an update message with a time to live of zero).**

Regarding claim 39, Albert '045 discloses wherein processing the packet further comprises forwarding the packet to the target traffic manager (**see fig.2A, 3A-3B, and fig.4, which show the use forwarding sync packet to the service manager 300).**

Regarding claim 40, Albert '045 discloses wherein receiving the signal further comprises receiving, from the target traffic manager (**i.e. affinity from service manager as traffic manager to forwarding agent 302),** the signal together with another packet (**see fig.3A-3B, see col.16, lines 7-25, which discusses affinity to be contained source and destination address, source and destination port and more)**.

Regarding claim 41, Albert '045 discloses, wherein receiving the packet further comprises receiving the packet from a client device (**see fig.3A, which shows forwarding agent 302 receives SYN packets from client 304**), and wherein receiving the signal further comprises receiving the signal together with another packet addressed to the client device (**se fig.3B, which shows SYN ACK with fixed affinity to be to the client 304, see col.12, lines 10-65**).

Regarding claim 42, Albert '045 discloses further comprising in response to receiving the signal, sending the processing instruction to a distributor (**see fig.2A, 3A-3B, which shows service manager as traffic manger sends affinity to the forwarding agent as distributor).**

7. Claims 57-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert et al (US 6,742,045) in view of Datta et al (US 6,493,341) and further in view of Hong et al (US 2002/0062372).

Regarding claim 57, Albert '045 discloses wherein the processor is arranged to perform further action (**see fig.2, 4, which shows the use of transmitting/ receiving from the service to forwarding agent as distributor).**

Although Albert '045 discloses if a matched affinity is not found, the packets is compared against wildcard affinities to find managers that are interested in this type of packet (**see col.15, lines 45-67**), Albert '045 does not explicitly

disclose a first partial server-side connection key corresponding to another flow of packets, wherein the first partial server-side connection key includes known fields and unknown fields; learning, at the distributor of a second partial server-side connection key which includes fields corresponding to unknown fields of the first partial server-side connection key; and storing, at the distributor an association between the second partial server-side connection key and the traffic manager associated with the flow of packets for use in forwarding packets of said another flow of packets as required by the claimed invention .

Hong '372 teaches the use by providing a first partial server-side connection key corresponding to another flow of packets **(see fig.1, which shows traffic manager and content director as distributor, see para.0060, which discusses the packet is received by the IFS 200, see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server)**, wherein the first partial server-side connection key includes known fields and unknown fields (**see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server for known field, see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because**

the client has not yet visited the server farm); learning, at the distributor **(i.e. at the content director)** of a second partial server-side connection key which includes fields corresponding to unknown fields of the first partial server-side connection key (**see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because the client has not yet visited the server farm, the tag is generated and concatenated into cookie when the response is received by the content director 100 from the server, see para.0064, which discusses the tag is generated based on the cache or origin server serving the URL and each server is assigned a unique server identifier)**; and storing, at the distributor (**i.e. at the content director**) an association between the second partial server-side connection key **(see para.0065, which discusses later, transaction requests from the same client includes a server tag associated with the respective server initially assigned to the client and routed directly to respective server)** and the traffic manager **(see fig.1, which shows traffic manger 120, see para.0039-0040)** associated with the flow of packets for use in forwarding packets of said another flow of packets(**see para.0058, which discusses incoming packets that is been load balanced by a traffic manager , see para.0037, see para.0039, which discusses traffic**

manager perform load balancing based on round robin or number of connection server served basis).

In view of the above, having the system of Albert '045 and then given the well-established teaching of Hong '372, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Albert '045 as taught by Hong '372, since Hong '372 stated in para.0010 + that such a modification would be an improved system.

Regarding claim 58, the combination of Albert '045 and Hong '372 discloses wherein the processor a first partial server-side connection key corresponding to another flow of packets **(see fig.1, which shows traffic manager and content director as distributor, see para.0060, which discusses the packet is received by the IFS 200, see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server)**, wherein the first partial server-side connection key includes known fields and unknown fields (**see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server for known field, see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because**

the client has not yet visited the server farm); learning, at the distributor **(i.e. at the content director)** of a second partial server-side connection key which includes fields corresponding to unknown fields of the first partial server-side connection key (**see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because the client has not yet visited the server farm, the tag is generated and concatenated into cookie when the response is received by the content director 100 from the server, see para.0064, which discusses the tag is generated based on the cache or origin server serving the URL and each server is assigned a unique server identifier)**; and storing, at the distributor (**i.e. at the content director**) an association between the second partial server-side connection key **(see para.0065, which discusses later, transaction requests from the same client includes a server tag associated with the respective server initially assigned to the client and routed directly to respective server)** and the traffic manager **(see fig.1, which shows traffic manger 120, see para.0039-0040)** associated with the flow of packets for use in forwarding packets of said another flow of packets(**see para.0058, which discusses incoming packets that is been load balanced by a traffic manager , see para.0037, see para.0039, which discusses traffic**

manager perform load balancing based on round robin or number of connection server served basis of Hong '372**).**

Regarding claim 59, the combination of Albert '045 and Hong '372 discloses wherein the processor a first partial server-side connection key corresponding to another flow of packets **(see fig.1, which shows traffic manager and content director as distributor, see para.0060, which discusses the packet is received by the IFS 200, see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server)**, wherein the first partial server-side connection key includes known fields and unknown fields (**see para.0062, which discuses the IFS parses/extract the packets for selected fields destination invariant, source invariant and/or payload invariant as partial key server for known field, see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because the client has not yet visited the server farm)**; learning, at the distributor **(i.e. at the content director)** of a second partial server-side connection key which includes fields corresponding to unknown fields of the first partial server-side connection key (**see para.0063, which discusses if the packet has no cookie as unknown field at the distributor/content directory, because the client has not**

yet visited the server farm, the tag is generated and concatenated into cookie when the response is received by the content director 100 from the server, see para.0064, which discusses the tag is generated based on the cache or origin server serving the URL and each server is assigned a unique server identifier); and storing, at the distributor (**i.e. at the content director**) an association between the second partial server-side connection key **(see para.0065, which discusses later, transaction requests from the same client includes a server tag associated with the respective server initially assigned to the client and routed directly to respective server)** and the traffic manager **(see fig.1, which shows traffic manger 120, see para.0039-0040)** associated with the flow of packets for use in forwarding packets of said another flow of packets(**see para.0058, which discusses incoming packets that is been load balanced by a traffic manager , see para.0037, see para.0039, which discusses traffic manager perform load balancing based on round robin or number of connection server served basis of** Hong '372**).**

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINNCELAS LOUIS whose telephone number is (571)270-5138. The examiner can normally be reached on M-F from 7:30-5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AUNG S. MOE can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2474
Thursday, July 08, 2010